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SCHIZOPHRENIA AND AFFECTIVE DISORDER IN BLACK AND WHITE PATIENTS: A METHODOLOGIC NOTE

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Contrary to many published reports of higher rates of schizophrenia and lower rates of affective disorder among blacks, this analysis of data collected over a ten-year period in a psychiatric clinic that serves a predominantly black population found minimal differences between the two ethnic groups. Methodologic considerations that reduce spurious black-white differences are discussed. The authors urge proper caution in evaluating such reported differences and propose screening measures to identify biased diagnostic procedures.

Are there significant differences in the rates of certain mental disorders among blacks and whites? The correct answer to this question is important because stereotypes of black pathology (derived mainly from professional folklore) have been implicated in diagnostic errors with individual patients, resulting in inappropriate, ineffective, and biased treatment.

Many investigators have reported such differences. Taube[1] and Meyer[2] found a higher rate of schizophrenia and a lower rate of depression among blacks as compared with whites. Figelman,[3] Sletten et al,[4] and Steinberg et al[5] also reported a higher rate of paranoid schizophrenia among blacks. Most recently, McGovern and Cope[6] reported that British-born Afro-Caribbean males have first admission rates for schizophrenia seven times the rate for whites; for their female counterparts the ratio is 13 to 1. A prospective investigation by Harrison et al[7] found that the mean annual incidence rate is 16 times greater for British-born West Indian blacks aged 16 to 29 than the rate for British-born whites.

Of related theoretical interest are studies of black immigrants showing rates of schizophrenia twice as high as in British-born controls.[8] On closer study of recorded psychopathology, the authors concluded that the characteristic symptoms of schizophrenia were not more common among immigrants, but that this population probably suffered from paranoid psychosis rather than schizophrenia.

Other investigators have suggested that methodologic weaknesses in data collection may yield spurious black-white differences. For example, Simon et al[9] demonstrated that routine hospital diagnosis yielded a higher rate of schizophrenia and a lower rate of depression among black patients, but these differences vanished when a structured mental status examination was used. More recent reports have drawn attention to the importance of diagnostic accuracy as well as the use of appropriate controls for socioeconomic status in making these comparisons.[10] Another source of error is the study design. In a prospective study, the observers' preconceived ideas of the rates of these illnesses in the two racial groups may contaminate the recognition of symptom patterns and the process of making a diagnosis. A retrospective study of data collected in a clinical setting,

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TABLE 1. PATIENT PROFILE: POPULATION DEMOGRAPHICS AND DIAGNOSIS

	Diagnostic Subgroup	
Demographics	**N**	**%**
Race		
Black	3,933	71
White	1,246	23
Hispanic	314	6
	5,493	100
Age		
0-17	1,098	20
18-64	2,615	48
65+	1,780	32
	5,493	100
Sex		
Male	2,594	47
Female	2,899	53
	5,493	100

with no research intentions, is less vulnerable to this source of error.[11] Patient-therapist distance, stereotypes of pathology, and misinterpretation of symptoms have been enumerated as factors that may increase the probability of misdiagnoses in blacks.[12] These factors are less likely to exert a significant effect on the diagnostic process in a predominantly black patient population than they are in clinical facilities where most patients are white. For these reasons, it has been suggested that correction for socioeconomic status, retrospective rather than prospective data collection, and examination of predominantly black patient populations offer the best chance of reliable observations in making black-white comparisons.[11]

We present here the results of such an analysis, based on clinical data generated at Charles R. Drew Mental Health Center, Philadelphia, from 1968 to 1987.

METHOD

The data came from a catchment area in northwest Philadelphia, in which the patients are a socioeconomically homogeneous group (Table 1). Financial billing categorizations show that 80% to 95% of the patients were on "medical assistance" or had "zero liability," indicating a predominantly indigent population. Because low socioeconomic status is pervasive among patients of both racial groups, it seems to be a working "constant."

The variables examined were patients' primary diagnoses at first admission, race, sex, and age. The relevant diagnoses are schizophrenia, affective psychosis, and depressive neuroses, which make up about half the clinical categorizations for the catchment area. For the analysis, the category of "schizophrenia" is a composite of all subtypes of this disorder (acute, paranoid, undifferentiated, residual) as applied in patient assessments. "Affective psychoses" represent the clinical

TABLE 2. DIAGNOSIS BY RACE AND SEX: RACE CONTROLLING FOR SEX

	Schizophrenic Psychoses		Affective Disorders		Depressive Reactions			
	n	**%**	**n**	**%**	**n**	**%**	**Chi-Square**	**Cramer's V**
Race								
Black	1,141	74	336	64	2,456	79		
White	393	26	184	36	669	21	50.57*	0.10
Sex								
Male	881	54	225	39	1,488	45		
Female	743	46	345	61	1,811	55	51.84*	0.09
Sex by Race								
Male								
Black	607	73	119	60	1,106	79		
White	222	27	79	40	300	21	35.06*	0.12
Female								
Black	534	76	217	67	1,350	78		
White	171	24	105	33	369	22	19.04*	0.08

*$P<0.001$

TABLE 3. DIAGNOSIS BY RACE: CONTROLLING FOR SEX AND AGE

	Schizophrenic Psychoses (%)	Affective Disorders (%)	Depressive Reactions (%)	Chi-Square	*P*	Cramer's V
0-17						
Male (n=473)						
Black	75	47	85			
White	25	53	15	29.47	.0000	0.25
Female (n=561)						
Black	74	72	83			
White	26	28	17	6.95	0.03	0.11
18-35						
Male (n=470)						
Black	71	68	77			
White	29	32	23	2.33	NS	0.07
Female (n=507)						
Black	76	73	75			
White	24	27	25	0.33	NS	0.02
33-64						
Male (n=697)						
Black	71	57	77			
White	29	43	23	10.65	0.005	0.13
Female (n=817)						
Black	75	59	77			
White	25	41	23	12.76	0.002	0.13
65+						
Male (n=793)						
Black	75	66	78			
White	25	34	22	4.72	NS	0.07
Female (n=861)						
Black	78	68	79			
White	22	32	21	6.02	NS	0.08

categories of major depression with or without psychotic features, and manic depressive illness as used in the *International Classification of Disease-9* and the *Diagnostic and Statistical Manual (DSM)-II* before 1980 and in *DSM-III* thereafter. Depressive reactions represent the nonmajor depression categories such as neurotic depression and adjustment disorders with depressive features.

We analyzed our findings by age and gender to allow appropriate comparison of the role of these factors with findings that have been reported in the literature.

RESULTS

Results are summarized in Tables 2 and 3 depicting the relationship between race and diagnosis, sex and diagnosis, and the effect of controlling for sex and age in interpreting the race and diagnosis relationship. Modest statistically significant differences appear to exist between blacks and whites, with the white patients being overrepresented in the diagnostic categories of schizophrenia and affective disorders, whereas blacks were more frequently diagnosed as having "depressive reaction."

When controlling for the client's sex, the relationship is also statistically significant and shows the same pattern. As expected, female clients tended to fall into the affective diagnostic categories at both severity levels, irrespective of the influence of race. Table 2 shows the race-sex relationship to be more significant for males than females. Black-white differences in affective diagnoses are more pronounced, whereas variation among females seems to be based on levels of severity in interpreting affective symptomatology. Males were more likely to be overrepresented in the schizophrenic classifications. However, this pattern is more pronounced for white males and tends to be neutralized for black males (Table 2).

Table 3 indicates that the white overrepresentation in the severe clinical classifications holds up independent of sex and age. The influence of race in biasing diagnostic affiliation appears more significant than the sex effect. In the more severe affective classification, the sex difference becomes neutralized, in that black females are underrepresented. The influence of age appears statistically significant only in the youngest group of patients and in those between the ages of 36 and 64. Age, independent of any other factors, did not appear to be statistically related to diagnosis ($P>0.1$).

When used as a control with sex in interpreting the original hypothesis, the already obtrusive racial differences become more magnified for certain subpopulations. This points to a class of patients who appear most vulnerable to "harsher" diagnostic profiles. These disparities are most poignant for males in the youngest age group, who were assessed as severely affectively impaired. Racial disparities point to gross under- and overrepresentation in this subgroup of diagnostic categories. Interestingly, this pattern toward significant diagnostic bias in the major affective area for those between the ages of 36 and 64 holds for both males and females.

DISCUSSION

This study shows that retrospective analysis of clinically generated data in a predominantly black patient population yielded few black-white differences, ie, among adult males. Contrary to much of the published literature, schizophrenia was diagnosed more frequently among whites in this patient population.

The absence of statistically significant differences among other age and sex groups suggests that caution be exercised in evaluating reports of black-white differences in studies that neglect the methodologic considerations discussed above. These findings also argue for greater awareness among clinicians and researchers if they are to avoid the types of prejudicial assumptions that may lead them to make incorrect diagnoses among blacks.[12]

No conclusive etiologic factors have been identified in schizophrenia. Therefore, the validity and reliability of data suggesting a markedly higher incidence of this disease in any patient group or population need to be rigorously established.

If previously reported black-white differences are artifacts caused by inadequate methodology, some documented patterns of treatment need to be brought to the attention of clinicians. For example, Gross et al[13] found that race and sex affected the disposition of patients from their emergency rooms. For hospitalized female patients, behavior was likely to be called neurotic if the patient was white, and psychotic if the patient was black. Lewis et al[14] found that black boys were sent to the criminal justice system more often than their white counterparts, who were hospitalized instead. At the Virginia Center for Psychiatry, blacks were reported to be twice as likely as whites to receive injectable long-acting antipsychotic medications, even after controlling for age and sex (*Psychiatric News*, June 15, 1984).

In the absence of valid diagnostic differences, these patterns of differential treatment suggest that extraneous factors may be influencing the judgment of clinicians when diagnosing and treating black patients. Because black patients are already at risk for inferior treatment,[15,16] proper attention to diagnostic issues may help decrease the trauma of the treatment experience. Our findings suggest that widely different rates of mental disorder among blacks and whites in the same clinical setting should alert clinicians to the possibility that systematic bias may be unwittingly built into the diagnostic and therapeutic routines. If such differences persist after adequate adjustment for the types of methodologic issues raised here, it may then be appropriate to infer that nonclinical factors may be at work.[17]

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